

Appl. No. 10/028,118
Amendment and/or Response
Reply to Office action of 1 November 2005

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REMARKS / DISCUSSION OF ISSUES

Claims 1-20 are pending in the application. Claims 5-20 are withdrawn, with traverse.

The Office action rejects claims 1-4 under 35 U.S.C. 103(a) over Hansen et al. (USPA 2002/0015135, hereinafter Hansen) and Hirata et al. (USP 6,124,979, hereinafter Hirata). The applicant respectfully traverses this rejection.

The Examiner's attention is requested to MPEP 2143, wherein it is stated:

"THE PRIOR ART MUST SUGGEST THE DESIRABILITY OF THE CLAIMED INVENTION ... The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). ... The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)".

Claims 1 and 2 each claims a device that includes an optically transparent substrate, a corrosion sensitive polarizing element on the substrate, and an optically transparent cover sheet sealed to the substrate and forming a sealed enclosure surrounding the polarizing element, wherein the enclosure includes a non-reactive atmosphere to protect the polarizing element from ambient environmental conditions.

Hansen teaches a wire-grid polarizer sealed between two substrates. Hansen notes that, for optimum optical performance, the material between the wire elements should provide a constant refractive index, and specifically teaches the use of "air or vacuum ... but for reasons of practicality or performance in certain applications, other materials may be used" (Hansen, paragraph [0132]). That is, Hansen does not teach or suggest sealing the wire grid to protect it from ambient environmental conditions. One of ordinary skill in the art would not be led by Hansen to find alternative structures for protecting the wire grid from ambient environmental conditions, because Hansen does not teach such protection, and specifically teaches against such protection by teaching that air may be used as the medium between the wires.

Hirata teaches sealing polarizing plates in a particular design wherein a liquid coolant is used to cool the components. The liquid coolant is a solvent, and has the

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potential of dissolving the resin used in the polarizing plates. The resin of a polarizing plate is not, per se, a corrosion sensitive element, and one of ordinary skill in the art would not be lead by Hirata to use such a sealing method in any other application, because other than being immersed in a solvent, Hirata's polarizing element is non-corrosive. Additionally, Hirata is silent with regard to the material surrounding the polarizing element within Hirata's enclosure. Presumably, absent any teaching to the contrary, the space is filled with air.

The applicant teaches that the materials that are generally used to form polarizing elements mounted on a substrate are generally corrosion-sensitive, and further teaches that the protection of polarizing elements from ambient environmental conditions will improve the reliability of the polarizing element, and teaches a variety of embodiments that provide this protection. Absent the applicant's teachings, one of ordinary skill in the art would not be led to combine Hansen and Hirata, because Hansen does not teach or suggest protecting elements from corrosion, and Hirata does not teach the use of corrosion-sensitive polarizing materials.

Because there is no suggestion in the prior art to combine Hansen and Hirata, the applicant respectfully maintains that the rejection of claims 1-2 under 35 U.S.C. 103(a) based on this combination is unfounded, per MPEP 2143.

Claim 3, upon which claim 4 depends, claims a light polarizing device that includes an optically transparent substrate, a corrosion sensitive polarizing element on the substrate, an optically transparent cover sheet, a plurality of spacers distributed around a periphery of the device and supporting the cover sheet on the substrate above the element, sealant extending around the periphery of the device between the substrate and the cover sheet, and non-reactive atmosphere filling the interior space between the substrate and the cover sheet and protecting the corrosion sensitive polarizing element.

As noted above, there is no suggestion in the prior art to combine Hansen and Hirata. Further, the Office action acknowledges that both of the references fail to teach spacers distributed around the periphery of the device and supporting the cover sheet.

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The applicant notes that the use of spacers to support the cover sheet above the polarizing elements allows the interior space to be easily filled (or evacuated) with non-reactive atmosphere. Hansen illustrates the top and bottom plates both being in contact with the wire-grid, and teaches that each of the enclosed spaces is filled with air, vacuum, or other material. Hansen does not teach or suggest creating a space above the wire-grid elements, and it is not immediately apparent from Hansen that such a space would be desirable and/or acceptable. Hirata is silent regarding the structural relationship between the outer plates and the polarizing element.

The Office action takes Official Notice that the use of spacers is common in the art. The applicant agrees with this notice, but respectfully maintains that absent the applicant's teachings, there is no suggestion to modify Hansen, and no suggestion to create an easy-to-fill space for providing a non-reactive atmosphere to protect a corrosion sensitive polarizing element, and no suggestion to combine Hansen and Hirata.

Because there is no suggestion in the prior art to combine Hansen and Hirata, and because there is no suggestion in the prior art to provide spacers that support a cover sheet above the polarizing elements, the applicant respectfully maintains that the rejection of claims 3-4 under 35 U.S.C. 103(a) based on either of these combinations is unfounded, per MPEP 2143.

In view of the foregoing, the applicant respectfully requests that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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